

# **APPLICATION FOR UNITED STATES PATENT**

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**Invention:** FASHION DOLL STAND

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## FASHION DOLL STAND

### CROSS-REFERENCE TO RELATED APPLICATIONS

The present application derives priority from provisional application no. 60/444,998 filed February 4, 2003.

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### BACKGROUND OF THE INVENTION

#### 1. Field of the invention

The present invention relates generally to doll stands and specifically to an improved doll stand for supporting fashion dolls by a single leg.

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#### 2. Description of the Background

There have been many types of doll stands for supporting many types of manufactured dolls in an upright position, usually for decorative display. The most common of these types generally include a base with a vertically extending strut. This strut is adapted to clamp or clip the waist, underarms or crotch of the doll to maintain it in a vertical position.

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The first known improvement to the foregoing type stand in the prior art is shown in U.S. Patent No. 479,481 to Willcox issued July 26, 1892. It is remarkable that after more than a century, this type of display stand remains in use and commercially available.

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Another type doll stand is shown in United States Patent No. 3,009,284 to Ryan issued Nov. 21, 1961. This modified display stand adds rods that extend into the feet of the doll. Similarly,

5 magnetic devices are embedded into the feet or shoes of a doll in United States Patent No. 5,024,611 to Eckerle et al. issued June 18, 1991. These two stands require that the doll itself be specially made or modified for use with the stand. This constraint severely limits the utility of such stands with commonly available fashion dolls.

Three examples of two-legged doll stands are shown in United States Patent No. 3,516,632  
10 issued June 23, 1970 to Hall, United States Patent No. 3,699,712 issued October 24, 1972 to Handler et al., and United States Patent No. 5,209,694 issued May 11, 1993 to Utt. As these stands require both legs to support the doll, they tend to curb the user's play activity.

In the fanciful world of fashion dolls it is far more exciting to provide a single-leg doll stand. A single leg stand allows the free leg to be arranged in various poses, as a fashion model on the cat-walk  
15 or as a dancer on the stage.

There have been a few prior efforts to provide single-legged stands. For example, United States Patent No. 3,567,084 to DeWitt issued March 2, 1971 discloses a toe-clamping type support that may be adapted to support one leg of a fashion doll. Another is United States Patent No. 4,127,251 to Sapkus et al. issued November 28, 1978. This shows an ankle-clamping type doll stand  
20 for supporting one or two fashion dolls by one leg. Using rod members and cross members for support and clip members for attachment at the ankle, this elaborate example requires user assembly and adjustment. This stand also contains small parts...a potential choking hazard if used by small children.

In addition, there is a serious functional deficiency in these single-legged stands. This stems from their respective points of attachment to the fashion doll, namely at the toe and at the ankle. To explain  
25 this drawback, it should first be understood that the legs of most modern fashion dolls (circa 1980-to date) are molded using soft, supple plastics versus the earlier hard and rigid types. The use of these

5 softer resins creates a flaccid or "floppy" condition at the foot and ankle of the doll. As a consequence, these "floppy" conditions render both the toe-clamping support and the ankle-clamping stand unfit to support most modern fashion dolls.

A final example is United States Patent No. 4,186,516 to Ensmann issued February 5, 1980. This combination shows a mechanized stand that clamps the thigh and the foot of a doll. The doll is  
10 expressly made for, and limited to, the simulation of ice skating movements. This limitation precludes the use of this stand with commonly available fashion dolls. It is offered here to show its thigh-clamping mode of attachment to a single leg of a doll.

All of the foregoing doll stands tend to utilize clips or clamps for gripping the body or limbs of the fashion doll. This is less than an ideal mode of attachment because: 1) the clips or clamps can limit  
15 the motion of the doll; 2) they can mar the doll; 3) they can be difficult to use; and finally 4) they can cause safety concerns (choking hazards) for small children. In addition, existing prior art doll supports for fashion dolls have one or more of the following disadvantages: 1) they do not allow full posability of most modern fashion dolls in a supported position while posed; 2) they are not themselves aesthetically pleasing or are physically intrusive upon the play experience; 3) they can present a safety hazard if used  
20 by small children; 4) they can be impractical, complex or difficult to assemble and use.

Thus, there remains a significant commercial need for a safe, practical, easy-to-use, attractive but discreet, single-legged doll stand for fashion dolls.

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## SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide a single-legged doll stand for supporting fashion dolls by a single leg that facilitates all of the following:

- allows free insertion/removal of one leg or the other and should not clip or clamp the leg of the fashion doll in any way.

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- provides a full range of posability of the fashion doll in a supported position.

- conforms to the legs of the doll so as not to intrude on the aesthetics of the doll, better showcasing the fashion dolls that it supports.

- intrudes minimally upon the user's play experience with the fashion doll.

- is molded in one or two pieces of resilient and non-toxic material to reduce the possibility of

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choking or injury if the fashion doll stand is used by small children.

- is simple and easy-to-use for fashion doll users of all ages and abilities.

- provides sturdy two-point support: 1) around the calf, and 2) around the ball of the foot,

thereby providing orthogonal support for the fashion doll with excellent lateral, horizontal and rotational stability.

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According to these objects, the present device is a fashion doll stand for the single-legged support of a fashion doll. The stand includes a Shaped Base having a flat or concave underside with a center of gravity, and a hollow Tapered Leg Support. The Tapered Leg Support is hollow along its entire length and is contoured to conform to the leg. The Tapered Leg Support is molded to conform to the leg, with a full frontal opening to bare the leg, and is joined generally perpendicular to said

5 Shaped Base through its center of gravity. The Tapered Leg Support has a Leg Opening at its upper and larger end the rim of which forms a 360 degree leg-supporting collar, allowing the leg of a subject fashion doll to be inserted there through by the user. The Supporting Collar closely encircles and supports the mid-to-upper calf portion of the leg of a subject doll. Below the Supporting Collar, the full frontal opening is defined by an elongate contoured cutout in the front wall of the Tapered Leg  
10 Support, the frontal opening providing an unobstructed view of the doll's leg and free egress for the foot of a subject doll being mounted. Beneath the frontal opening, the interior of the lower and smaller end of the Tapered Support forms a stabilizing recess to locate and stabilize the ball of the foot of a subject doll upon the Shaped Base. The lower distal end of the Tapered Support is anchored in or integrally molded to the Shaped Base. Thus, the single-legged doll stand does not clamp or clip the leg  
15 in any way, but simply allows free insertion/removal of one leg or the other to provide a full range of posability of the doll in a supported position. The single-legged doll stand also ensures sturdy two-point support: 1) around the calf, and 2) around the ball of the foot, thereby providing excellent lateral, horizontal and rotational stability. The single-legged doll stand also does not detract from the appearance of the doll in any way. To the extent that the doll stand is visible at all, it looks good and  
20 helps to showcase the fashion dolls that it supports while intruding minimally on the doll's aesthetic or the users play experience. The single-legged doll stand is molded in one or two pieces of resilient and non-toxic materials to reduce the possibility of choking or injury if the stand is used by small children.

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## BRIEF DESCRIPTION OF THE DRAWINGS

Other objects, features, and advantages of the present invention will become more apparent from the following detailed description of the preferred embodiment and certain modifications thereof when taken together with the accompanying drawings in which:

FIG. 1 is a perspective view of the single-legged Doll Stand 2 with doll 1 inserted.

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FIG. 2 is a perspective view of the Doll Stand 2 alone.

FIG. 3 is a side view of the Doll Stand 2.

FIG. 4 is a side view of the Doll Stand 2 with inserted doll 1 in a variety of upright positions.

FIG. 5 is an overhead view of the Shaped Base 20 which may be formed in a heart shape for aesthetic effect.

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FIG. 6 is a side exploded view of an embodiment of the Doll Stand 2 in which the Tapered Support 10 is formed integrally with a flat platform 40, the base 20 is inserted onto the platform.

FIG. 7 is a perspective view of a wall rack 40 for securing multiple Doll Stands 2 as in FIGS. 1-6 to a wall or counter surface for storage or display.

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## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is a safe and simple doll stand for the facility and enhancement of the user's normal play activity with popular posable fashion dolls. As seen in FIG. 4, the doll stand 2 functions to firmly support a posable fashion doll in a full range of upright positions by a single leg.

5           FIG. 1 is a perspective view of the single-legged Doll Stand 2 with doll 1 inserted, and FIG. 2 is a perspective view of the Doll Stand 2 alone, according to a preferred embodiment of the present invention. With combined reference to FIGs. 1 and 2, the Doll Stand 2 generally comprises a hollow Tapered Leg Support 10 and a Shaped Base 20. The hollow Tapered Support 10 extends upwardly, concentrically and orthogonally through the center of gravity of the Shaped Base 20 and functions to support the fashion doll 1 at the mid-to-upper calf 4. The Tapered Leg Support 10 is hollow along its entire length and is contoured to conform to the leg of doll 1 (preferably, to a conventional Barbie Doll®). The Tapered Leg Support 10 is molded to conform to the leg, with a full frontal opening 12 to bare the leg, and is joined generally perpendicular to said Shaped Base 20 through its center of gravity. The Tapered Leg Support 10 has a leg opening at its upper and larger end the rim of which forms a 360 degree leg-supporting collar 14, allowing the leg of a subject fashion doll to be inserted there through by the user. The Supporting Collar 14 closely encircles and supports the mid-to-upper calf portion 4 of the leg of a subject doll 1. Below the Supporting Collar 14, the full frontal opening 12 is formed by an elongate contoured cutout (or molded aperture) in the front wall of the Tapered Leg Support 10, the frontal opening 12 providing an unobstructed view of the doll's leg and free egress for the foot of a subject doll 1 being mounted. Beneath the frontal opening 12, the interior of the lower and smaller end of the Tapered Leg Support 10 forms a stabilizing recess to locate and stabilize the ball 6 of the foot of a subject doll 1. The lower distal end of the Tapered Leg Support 10 is anchored in or integrally molded to the Shaped Base 20 as will be described. The fashion doll 1 is thereby firmly and orthogonally supported with little or no contact friction. To insert the doll 1, one leg is simply inserted



5 down through the Supporting Collar 14 at the top of the hollow Tapered Leg Support 10 until the mid-to-upper calf portion 4 of the leg contacts the supporting collar 14. Concurrently, the ball 6 of the foot of the doll 1 is planted within the recess at the lower end of the Tapered Leg Support 10, with toes extending outward through the frontal opening 12.

FIG. 3 is a side view of the Doll Stand 2. Dimensionally, the Tapered Leg Support 10 is  
10 approximately 3-1/4 inches in length when measured from the bottom surface of the Shaped Base 20 to the top of the Supporting Collar 14. The Supporting Collar 14 has an outside diameter of approx. 5/8-inches at the opening. The lower and smaller end of the Tapered Leg Support 10 has an outside diameter of approx. 3/8-inches. The Tapered Support 10 is hollow along its entire length. The full frontal opening 12 is formed by elongate contoured cutout (or molded aperture) in the front wall of the  
15 Tapered Leg Support 10 and allows the toes and foot of the subject doll to pass through the wall of the hollow Tapered Support 10 without obstruction. The upper end of the hollow Tapered Leg Support 10 above frontal opening defines the supporting collar 14 which encircles and supports the leg of the doll at the mid-to-upper calf 4. The particular size, contoured shape and taper of the hollow Tapered Leg Support 10 enables the Supporting Collar 14 to achieve intimate contact with the mid-to-upper  
20 calf 4 of the leg. The lower end of the Tapered Support 10 surrounds the foot 5 by approximately 250-degrees (interrupted by opening 12), and the recess at the lower end of the Tapered Leg Support 10 anchors the ball 6 of the foot, thereby maintaining the doll in a balanced configuration with leg perpendicular, and allowing the fashion doll 1 to be firmly supported in a variety of upright positions.

5           This sturdy two-point support combination of 360-degree peripheral orthogonal calf 4 support  
with full vertical and 250-degree lateral foot stabilization for a single leg 3 of the fashion doll 1 provides  
excellent lateral, horizontal and rotational stability for the doll/doll stand combination 1 in a variety of  
upright positions as seen in FIG. 4. Nevertheless, a subject doll 1 is mounted onto the stand simply and  
easily as described above. The fashion doll 1 is just as easily removed, and can just as easily be  
10 re-supported by the other leg, achieving the same stable result.

FIG. 5 is an overhead view of the Shaped Base 20 which may be formed in a heart shape as  
shown for aesthetic effect. Alternate geometric or freeform base designs may be more appropriate as a  
matter of design choice. In each case the shaped base 20 should have a flat or concave underside that  
seats flush on a flat surface, such as a table top or shelf, onto which the fashion doll 1/doll stand 2  
15 combination is placed by the user. The Shaped Base 20 is particularly dimensioned so that its center of  
gravity coincides with its physical attachment to Tapered Leg Support 10. This way, the doll's center  
of gravity, while in virtually any upright position, is calculated to be on a vertical line that passes through  
the Shaped Base 20 and Tapered Leg Support 10 to ensure that the line of action of the upward force  
at the mid-to-upper calf 4 of the doll 1 exerted at the point of support the Supporting Collar 14 will be  
20 the same as the line of action of the force of gravity, which is, by definition, downward and effectively  
applied at the center of gravity. The coincidence of these lines of action and the fact, in Newtonian  
mechanics, that the two forces are equal and opposite, guarantees that the vector sum of the forces and  
torques are zero no matter what vertical axis is selected.

5                Three methods of manufacturing the Doll Stand 2 in the above-described configuration will now be described.

              The entire Doll Stand inclusive of both the Shaped Base 20 and the Tapered Support 10 may be integrally molded in a single molding process, using a conventional blow-molding or rotation-molding process. Due to safety considerations, the unitary molded design is the preferred embodiment because  
10 it reduces the risk of both choking and injury when the Doll Stand 2 is used by small children.

              On the other hand, it is more economical to use two separate molds for the Shaped Base 20 and the Tapered Support 10, and to then insert the hollow Tapered Support 10 into the Shaped Base 20. However With this two-piece design, the Shaped Base 20 is formed with a hole 22 at the center of gravity (as seen in FIG. 5) for friction-fit insertion of the Tapered Support 10. The Tapered  
15 Support 10 may be glued or heat welded into hole 22 to ensure a secure anchor. In any case, both component parts 10 and 20 may be molded of any suitable hard plastic or synthetic material. An acrylic resin or clear plastic is presently preferred for their aesthetics.

              Yet another embodiment is shown in FIG. 6, in which the Tapered Support 10 is formed integrally with a flat platform 40, and a collar 42 raised slightly above the platform 40 to define a  
20 clearance. The Shaped Base 20 is formed as a concave shell using a softer rubber or plastic, with a central hole 23. The outline of the flat platform 40 conforms to that of the Shaped Base 20. This way, the Shaped Base 20 may be inserted down via hole 23 along the Tapered Support 10 until it is seated between the flat platform 40 and raised collar 42.

5 Referring back to FIG. 1 the Doll Stand 2 is virtually invisible. To the extent that it is visible, the transparent plastics and slim-line design add to the aesthetics and help showcase the fashion doll 1 that it supports. The foregoing single-legged Doll Stand 2 for fashion dolls does not clamp or grip the leg 3 of the fashion doll 1 in any way, but simply allows free insertion/removal of one leg or the other to provide a full range of posability of a fashion doll 1 in a supported position. Despite its simplicity and  
10 versatility, the Doll Stand 2 provides sturdy two-point support: the first point provides orthogonal support around the mid-to-upper calf 4, and the second point provides lateral stabilization support at the ball of the foot 6, thereby ensuring complete lateral, horizontal and rotational stability of a mounted fashion doll 1. The Doll Stand 2 also does not detract from the appearance of the fashion doll 1 or from the play experience of the user in any way. To the extent that the Doll Stand 2 is visible at all, it  
15 looks good and helps to showcase the fashion doll 1 that it supports.

FIG. 7 is a perspective view of a wall rack 50 for securing multiple Doll Stands 2 as in FIGS. 1-6 to a wall or counter surface for storage or display. The wall rack 50 generally comprises a contoured horizontal bracket 46 that is secured to the wall by wall-screws or the like. Horizontal bracket 46 is preferably formed with a plurality of contour recesses 48 which conform to the outline of  
20 the Shaped Base 20 for seating therein, and a corresponding plurality of receptacles centrally-located within each contour recess 48, the receptacles being defined by raised ridges 52 surrounding a centering hole 44. To make use of the receptacles of wall rack 50, the Shaped Base 20 in any of the above-described configurations is formed with a ridge 26 (see FIG.5) protruding downwardly and sized for a cooperating fit into the raised ridges 52 of the receptacles of wall rack 50. Likewise, the

5 Shaped Base 20 is formed with a central peg 28 (see FIG. 5) protruding downwardly and sized for a cooperating fit into the centering hole 44 of the receptacles of wall rack 50. This three-seat configuration gives a high degree of stability for commercial mounting.

Having now fully set forth the preferred embodiment and certain modifications of the concept underlying the present invention, various other embodiments and certain variations or modifications of  
10 the embodiments herein shown and described will obviously occur to those skilled in the art upon becoming familiar with the underlying concept. It is to be understood, therefore, that the invention may be practiced otherwise than as specifically set forth in the appended claims.